705/05

Access DB# 41479

12

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Robert Downs Examiner #: 69750 Date: 5/1/01
Art Unit: 2165 Phone Number 305-9642 Serial Number: 09/141,264
Mail Box and Bldg/Room Location: PK2 5A37 Results Format Preferred (circle): PAPER DISK E-MAIL

If mor than one search is submitted, please prioritiz searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Goal Oriented Travel Planning System

Inventors (please provide full names): Terrell B. Jones, Joseph R. offutt

Earliest Priority Filing Date: 8/27/98 Attached: Spec pp 10-13
Clms 1, 20, 39, 58, 59

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

There are two aspects of the invention which the examiner has been unable to locate. First is the determination of an arrival time at an intermediate point that allows time for traveling between the intermediate point and a destination point by a requised time. Second is the recommendation of modes of ~~#~~ transportation to a destination site.

05-02-01 A08:38 IN

1st aspect - claims 1, 20, 39
2nd aspect - claims 58, 59

A rejection was made using Pat 5,948,040 (DeLorme et al.)

****

STAFF USE ONLY

Searcher: K. Hilton
Searcher Phone #: 308-7793
Searcher Location: EIC 2100
Date Searcher Picked Up: 5/11/01
Date Completed: 5/14/01
Searcher Prep & Review Time: 85
Clerical Prep Time: _____
Online Time: 447 ~~448~~

PTO-1590 (1-2000) ~~554~~ 532

Type of Search

NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) _____
Bibliographic ✓
Litigation _____
Fulltext _____
Patent Family _____
Other _____

Vendors and cost where applicable

STN ✓
Dialog ✓
Questel/Orbit _____
Dr.Link _____
Lexis/Nexis _____
Sequence Systems _____
WWW/Internet ✓
Other (specify) _____

Dialog NPL search 09/141264

Set	Items	Description
S1	10964	TRAVEL? (S) (REQUEST OR PLAN? OR ITINERARY) (S) (COMPUTER OR PROCESSOR)
S2	2502	TRAVEL? (5N) (REQUEST OR PLAN? OR ITINERARY) (S) (COMPUTER OR PROCESSOR)
S3	0	(DETERMIN?3 OR FIND?3 OR RETRIEV?3) (10N) (TRANSPORT?5)
S4	104	(DETERMIN??? OR FIND??? OR RETRIEV???) (10N) ((TRANSPORT?? OR TRAVEL????)(5W) OPTION)
S5	8	S4 AND S2
S6	8	RD S5 (unique items)

?

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YSTEM:OS  - DIALOG OneSearch
  File  15:ABI/Inform(R) 1971-2004/May 01
        (c) 2004 ProQuest Info&Learning
*File  15: Alert feature enhanced for multiple files, duplicate
removal, customized scheduling. See HELP ALERT.
  File   9:Business & Industry(R) Jul/1994-2004/Apr 30
        (c) 2004  The Gale Group
  File 810:Business Wire 1986-1999/Feb 28
        (c) 1999 Business Wire
  File 275:Gale Group Computer DB(TM) 1983-2004/May 03
        (c) 2004 The Gale Group
  File 476:Financial Times Fulltext 1982-2004/May 03
        (c) 2004 Financial Times Ltd
  File 610:Business Wire 1999-2004/May 03
        (c) 2004 Business Wire.
*File 610: File 610 now contains data from 3/99 forward.
Archive data (1986-2/99) is available in File 810.
  File 624:McGraw-Hill Publications 1985-2004/May 03
        (c) 2004 McGraw-Hill Co. Inc
*File 624: Homeland Security & Defense and 9 Platt energy journals added
Please see HELP NEWS624 for more
  File 636:Gale Group Newsletter DB(TM) 1987-2004/May 03
        (c) 2004 The Gale Group
  File 621:Gale Group New Prod.Annou.(R) 1985-2004/Apr 30
        (c) 2004 The Gale Group
  File 613:PR Newswire 1999-2004/May 03
        (c) 2004 PR Newswire Association Inc
*File 613: File 613 now contains data from 5/99 forward.
Archive data (1987-4/99) is available in File 813.
  File 813:PR Newswire 1987-1999/Apr 30
        (c) 1999 PR Newswire Association Inc
  File  16:Gale Group PROMT(R) 1990-2004/May 03
        (c) 2004 The Gale Group
*File  16: Alert feature enhanced for multiple files, duplicate
removal, customized scheduling. See HELP ALERT.
  File 160:Gale Group PROMT(R) 1972-1989
        (c) 1999 The Gale Group
  File 634:San Jose Mercury  Jun 1985-2004/May 02
        (c) 2004 San Jose Mercury News
  File 148:Gale Group Trade & Industry DB 1976-2004/May 03
        (c)2004 The Gale Group
*File 148: Alert feature enhanced for multiple files, duplicate
removal, customized scheduling. See HELP ALERT.
  File  20:Dialog Global Reporter 1997-2004/May 03
        (c) 2004 The Dialog Corp.
  File  35:Dissertation Abs Online 1861-2004/Apr
        (c) 2004 ProQuest Info&Learning
  File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
        (c) 2002 The Gale Group
*File 583: This file is no longer updating as of 12-13-2002.
  File  65:Inside Conferences 1993-2004/Apr W4
        (c) 2004 BLDSC all rts. reserv.
  File   2:INSPEC 1969-2004/Apr W4
        (c) 2004 Institution of Electrical Engineers
*File   2: Alert feature enhanced for multiple files, duplicates
removal, customized scheduling. See HELP ALERT.
  File 233:Internet & Personal Comp. Abs. 1981-2003/Sep
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        (c) 2003 EBSCO Pub.
  File 474:New York Times Abs 1969-2004/May 02
        (c) 2004 The New York Times
  File 475:Wall Street Journal Abs 1973-2004/Apr 30
        (c) 2004 The New York Times
  File  99:Wilson Appl. Sci & Tech Abs 1983-2004/Mar
        (c) 2004 The HW Wilson Co.
  File 348:EUROPEAN PATENTS 1978-2004/Apr W04
        (c) 2004 European Patent Office
  File 349:PCT FULLTEXT 1979-2002/UB=20040415,UT=20040408
        (c) 2004 WIPO/Univentio
  File 347:JAPIO Nov 1976-2003/Dec(Updated 040402)
        (c) 2004 JPO & JAPIO
*File 347: JAPIO data problems with year 2000 records are now fixed.
Alerts have been run.  See HELP NEWS 347 for details.

      Set  Items  Description
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? s travel? (s) (request or plan? or itinerary) (s) (computer or processor)
Processing
Processed  10 of  27 files ...
>>>File 16 processing for PLAN? stopped at PLANTESTRANSG
Processing
>>>File 148 processing for PLAN? stopped at PLANTBIOTECH
Processing
>>>File 20 processing for PLAN? stopped at PLANNERSPLUS
Processing
Processed  20 of  27 files ...
Processing
>>>File 348 processing for PLAN? stopped at PLANETENUNTERSETZUNGSGETRIEBES
>>>File 349 processing for PLAN? stopped at PLANETENRADSTUF
Completed processing all files
         3925286  TRAVEL?
         3213370  REQUEST
        19711189  PLAN?
           64772  ITINERARY
         9473520  COMPUTER
         1188272  PROCESSOR
      S1   10964  TRAVEL? (S) (REQUEST OR PLAN? OR ITINERARY) (S) (COMPUTER
                  OR PROCESSOR)
? s travel? (5n) (request or plan? or itinerary) (s) (computer or processor)
Processing
Processed  10 of  27 files ...
>>>File 16 processing for PLAN? stopped at PLANTESTRANSG
Processing
>>>File 148 processing for PLAN? stopped at PLANTBIOTECH
>>>File 20 processing for PLAN? stopped at PLANNERSPLUS
Processing
Processed  20 of  27 files ...
Processing
>>>File 348 processing for PLAN? stopped at PLANETENUNTERSETZUNGSGETRIEBES
>>>File 349 processing for PLAN? stopped at PLANETENRADSTUF
Completed processing all files
         3925286  TRAVEL?
         3213370  REQUEST
        19711189  PLAN?
           64772  ITINERARY
```

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         9473520  COMPUTER
         1188272  PROCESSOR
      S2    2502  TRAVEL? (5N) (REQUEST OR PLAN? OR ITINERARY) (S)
                  (COMPUTER OR PROCESSOR)
? s (determin?3 or find?3 or retriev?3) (10n) (transport?5)
               0  DETERMIN?3
               0  FIND?3
               1  RETRIEV?3
               6  TRANSPORT?5
      S3       0  (DETERMIN?3 OR FIND?3 OR RETRIEV?3) (10N) (TRANSPORT?5)
? s (determin??? or find??? or retriev???) (10n) ((transport???? or travel????)(5w)
option))
>>>Unmatched parentheses
? s (determin??? or find??? or retriev???) (10n) ((transport???? or travel????)(5w)
option)
Processed  10 of  27 files ...
Processing
Processing
Processed  20 of  27 files ...
Processing
Completed processing all files
         5308206  DETERMIN???
         6667735  FIND???
         1740855  RETRIEV???
         2866512  TRANSPORT????
         3913984  TRAVEL????
         2244545  OPTION
      S4     104  (DETERMIN??? OR FIND??? OR RETRIEV???) (10N)
                  ((TRANSPORT???? OR TRAVEL????)(5W) OPTION)
? s s4 and s2
             104  S4
            2502  S2
      S5       8  S4 AND S2
? rd s5
>>>Duplicate detection is not supported for File 348.
>>>Duplicate detection is not supported for File 349.
>>>Duplicate detection is not supported for File 347.

>>>Records from unsupported files will be retained in the RD set.
...completed examining records
      S6       8  RD S5 (unique items)
? ds

Set     Items   Description
S1      10964   TRAVEL? (S) (REQUEST OR PLAN? OR ITINERARY) (S) (COMPUTER -
             OR PROCESSOR)
S2       2502   TRAVEL? (5N) (REQUEST OR PLAN? OR ITINERARY) (S) (COMPUTER
             OR PROCESSOR)
S3          0   (DETERMIN?3 OR FIND?3 OR RETRIEV?3) (10N) (TRANSPORT?5)
S4        104   (DETERMIN??? OR FIND??? OR RETRIEV???) (10N) ((TRANSPORT??-
             ?? OR TRAVEL????)(5W) OPTION)
S5          8   S4 AND S2
S6          8   RD S5 (unique items)
? t s6/7,k/1-8

 6/7,K/1     (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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01343801
Travel information distribution system
System zur Reiseinformationsverteilung
Systeme pour la distribution des informations de voyage
PATENT ASSIGNEE:
NEC CORPORATION, (236690), 7-1, Shiba 5-chome, Minato-ku, Tokyo, (JP),
(Applicant designated States: all)
INVENTOR:
Niwa, Yushi, NEC Corporation, 7-1, Shiba 5-chome, Minato-ku, Tokyo, (JP)
LEGAL REPRESENTATIVE:
VOSSIUS & PARTNER (100314), Siebertstrasse 4, 81675 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 1148458 A2 011024 (Basic)
EP 1148458 A3 030409
APPLICATION (CC, No, Date): EP 2001109147 010412;
PRIORITY (CC, No, Date): JP 2000112177 000413
DESIGNATED STATES: DE; GB; IT
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: G08G-001/0962; G08G-001/123; G06F-017/60

ABSTRACT EP 1148458 A2
A travel information distribution system includes a distribution center and a wireless terminal of a user who can readily obtaining necessary travel information in traveling places using the wireless terminal such a portable telephone or a portable personal computer. The user visits a travel agency to apply a travel, has a travel schedule table prepared and registers a telephone number of the wireless terminal in a database. The travel agency sends the data of the user to the distribution center, and distribution center receives travel information from information providers. After the departure of the travel, the distribution center transmits necessary travel information to the user at a proper time in a proper place. The user can obtain the necessary updated information in the necessary place and can be free from a heavy weight travel guidebooks. The distribution center can obtain advertisement incomes from travel agencies and advertisement firms.
ABSTRACT WORD COUNT: 149
NOTE:
Figure number on first page: 1

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	011024	A2	Published application without search report
Change:	030409	A2	International Patent Classification changed: 20030220
Search Report:	030409	A3	Separate publication of the search report
Examination:	030507	A2	Date of request for examination: 20030307
Examination:	030917	A2	Date of dispatch of the first examination report: 20030731

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200143	1267
SPEC A	(English)	200143	16794
Total word count - document A			18061
Total word count - document B			0
Total word count - documents A + B			18061

CLAIMS EP 1148458 A2

1. A travel information distribution system comprising:
   a schedule table preparator for preparing a schedule table containing reference places for obtaining information in a traveling, arrival dates and times of the reference places and distribution data to be distributed to a wireless terminal of a user in the reference places from an itinerary table of a travel; and
   a data distributor for searching the arrival dates and times in order from the schedule table prepared by the schedule table preparator to distribute distribution data to the wireless terminal of the user in respective arrival dates and times via a network.
2. A travel information distribution system comprising:
   a schedule table preparator for preparing a schedule table containing reference places for obtaining information in a traveling, arrival dates and times of the reference places and distribution data to be distributed to a wireless terminal of a user in the reference places from an itinerary table of a travel;
   a tolerance calculator for calculating time tolerances with respect to the arrival dates and times written in the schedule table prepared by the schedule table preparator;
   an arrival date corrector for correcting the arrival dates and times to earliest ones on the basis of the tolerances calculated by the tolerance calculator; and
   a data distributor for searching the arrival dates and times in order from the prepared schedule table to distribute distribution data related to the arrival dates and times corrected by the arrival date corrector to the wireless terminal of the user in respective arrival dates and times via a network.
3. The travel information distribution system claimed in claim 2, wherein the tolerance calculator calculates the tolerances by multiplying tolerances based on kinds of transport means for arriving at respective places by respective factors determined according to dates of moving.
4. The travel information distribution system claimed in claim 2, wherein the tolerance calculator calculates the tolerances by multiplying tolerances based on kinds of transport means for arriving at respective places by respective factors determined according to time bands of moving.
5. The travel information distribution system claimed in claim 2, wherein the tolerance calculator calculates the tolerances by multiplying tolerances based on kinds of transport means for arriving at respective places by respective factors determined according to dates and time bands of moving.
6. A travel information distribution system comprising:
   a schedule table preparator for preparing a schedule table containing destinations as reference places for obtaining information in a traveling, position information of the destinations and distribution data to be distributed to a wireless terminal of a user in the reference places from an itinerary table of a travel;
   a position information detector for detecting position information as a present place of the wireless terminal carried in the travel;
   a destination position information comparator for comparing the position information detected by the position information detector with position information of destinations shown in the schedule table prepared by the schedule table preparator; and
   a data distributor for distributing distribution data related to the coincident destination to a wireless terminal via a network when the

position information of any destination shown in the prepared schedule table is coincident with the position information detected by the position information detector by the comparison of the destination position information comparator.

7. The travel information distribution system claimed in claim6, wherein the wireless terminal includes:

a schedule table receiver for receiving a schedule table containing a schedule for a distribution of distribution data;

a schedule table storage for storing the schedule table received by the schedule table receiver;

a comparator for comparing distribution data, a distribution time and a distribution place when the distribution data is distributed with a distribution data, a distribution time and a distribution place written in the schedule table stored in the schedule table storage; and

a tolerance data transmitter for transmitting tolerances of the distribution time and place of the schedule table as the comparison result of the comparator as tolerance data, and the data distributor includes a schedule table renewer for renewing the contents of the schedule table by reflecting the tolerance data transmitted from the tolerance data transmitter.

8. A travel information distribution system comprising:

a schedule table preparator for preparing a schedule table containing destinations as reference places for obtaining information in a traveling, position information of the destinations and distribution data to be distributed to a wireless terminal of a user in the reference places from an itinerary table of a travel;

a position information detector for detecting position information as a present place of the wireless terminal carried in the travel;

a tolerance table containing tolerances between position information of reference positions of respective destinations and position information of border positions of respective destinations shown in the schedule table prepared by the schedule table preparator;

an area calculator for calculating areas of respective destinations from the position information of the reference positions of respective destinations and the tolerances shown in the tolerance table;

a destination position information comparator for comparing the areas calculated by the area calculator with the position information of the wireless terminal, detected by the position information detector; and

a data distributor for distributing distribution data related to the destination area including the position information of the wireless terminal to a wireless terminal via a network when the position information of the wireless terminal is included in any destination area by the comparison of the destination position information comparator.

9. The system as claimed in any one of claims 1 to 8,

wherein the wireless terminal includes:

a distribution data identifying information storage for storing identifying information for identifying the distribution data distributed by the data distributor;

a specifier for specifying one of a presence and an absence of use of the distribution data related to the identifying information stored in the distribution data identifying information storage; and

a notifier for notifying the data distributor of the distribution data specified by the specifier after finishing of the travel.

10. The system as claimed in any one of claims 1 to 9,

wherein the wireless terminal includes:
a place specifier for specifying the places where the user has used the distribution data distributed by the data distributor;
a place storage for storing the places specified by the place specifier; and
a notifier for notifying the data distributor of the places stored in the place storage after finishing of the travel.

11. The system as claimed in any one of claims 6 to 10,

wherein the wireless terminal includes a position information transmitter for transmitting the position information to the data distributor at a certain time interval, and

the data distributor includes:
a personal schedule table containing times and places of the wireless terminal according to the travel schedule;
a tolerance calculator for calculating tolerances between the position information transmitted from the position information transmitter and the schedule written in the personal schedule table on the basis of the time when the position information transmitter transmits the position information; and
a schedule table renewer for renewing the schedule table for the distribution of the distribution data by reflecting the calculation result of the tolerance calculator.

12. The system as claimed in any one of claims 1 to 11,
wherein the wireless terminal includes:
a schedule table receiver for receiving a schedule table prepared by the schedule table preparator; and
a distribution data transmitting requester for requesting the data distributor to transmit distribution data at a distribution timing of respective distribution data on the basis of the schedule table received by the schedule table receiver.

13. The system as claimed in any one of claims 1 to 12,

wherein the distribution data is distributed to the wireless terminal by an e-mail.

14. The system as claimed in any one of claims 1 to 13,

wherein the distribution data is distributed to the wireless terminal by a file described by a descriptive language.

15. The system as claimed in any one of claims 1 to 14,

wherein the distribution data includes addresses of contents on the network, and the wireless terminal accesses to the addresses to download necessary contents.

...SPECIFICATION the distribution of the travel information 112 of the second information provider 109.
Further, the **travel** agency 103 makes a distribution **request** 115 to the distribution center 107 for providing the proper travel information to the user...

...a large number of letters and an image like a wireless terminal of a laptop **computer** having a wireless function can do, a relatively much data amount of image information may...a bus or a train may be

predetermined, and in certain case, may not be **determined** before the travel is started by selecting a small **travel** as an **option** on that day. In the latter case, the users 102 are notified of that situation...

6/7,K/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00835737
SERVICE OFFERING SYSTEM
DIENSTANBIETUNGSSYSTEM
SYSTEME SERVEURS
PATENT ASSIGNEE:
HITACHI, LTD., (204141), 6, Kanda Surugadai 4-chome, Chiyoda-ku, Tokyo 101, (JP), (applicant designated states: DE;FR;GB)
INVENTOR:
TOYOUCHI, Junichi, A103, 17-12, Yataka-cho, Sagamihara-shi, Kanagawa 228, (JP)
MORI, Kinji, 15-8, Kanai 1-chome, Machida-chi, Tokyo 195, (JP)
KAWANO, Katsumi, 1-17-503, Fujinokidai, 3-1, Sugesengoku, Tama-ku, Kawasaki-shi, Kanagawa 214, (JP)
HONDA, Yoshinori, S325, 40-1, Utsukushigaoka-nishi 2-chome, Aoba-ku, Yokohama-shi, Kanagawa 225, (JP)
HIRASAWA, Shigeki, A507, 17-12, Yutaka-cho, Sagamihara-shi, Kanagawa 228, (JP)
LEGAL REPRESENTATIVE:
Strehl Schubel-Hopf Groening & Partner (100941), Maximilianstrasse 54, 80538 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 786728 A1 970730 (Basic)
EP 786728 A1 981223
WO 9703404 970130
APPLICATION (CC, No, Date): EP 96922239 960705; WO 96JP1868 960705
PRIORITY (CC, No, Date): US 1060 950711; JP 9667300 960228
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: G06F-015/00; G06F-019/00; G06F-017/30; G06F-013/00; G06F-017/60;

ABSTRACT EP 786728 A1
In a service providing system, a plurality of information acquiring computers for acquiring informations are connected via a network to a plurality of information providing computers for providing information. A service providing computer for executing an information providing service with respect to apparatuses for acquiring information is interposed between a plurality of in information acquiring apparatuses and a plurality of information providing apparatuses. The service providing computer receives a content of a request of the information acquiring computer, and determines a sort of information to be provided with a user based upon a quality of this request content, individual information and past historical information of the user, and also various sorts of conditions when the request is received. The service providing computer requests at least one of these information providing computers to provide the information. The information obtained from the request result is integrated by the service providing computer to be transmitted to the information acquiring computer.
ABSTRACT WORD COUNT: 158

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	970514	A1	International application (Art. 158(1))
Application:	970730	A1	Published application (Alwith Search Report ;A2without Search Report)
Examination:	970730	A1	Date of filing of request for examination: 970321
Search Report:	981223	A1	Drawing up of a supplementary European search report: 981111
Change:	981230	A1	Obligatory supplementary classification (change)

LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9707W5	736
SPEC A	(English)	9707W5	28188
Total word count - document A			28924
Total word count - document B			0
Total word count - documents A + B			28924

CLAIMS 1. A service providing system in which a plurality of apparatuses for acquiring information are connected via a network to a plurality of apparatuses for providing information, wherein:

at least one apparatus intervens between said plurality of information acquiring apparatuses and said plurality of information providing apparatuses; and said intervening apparatus receives a content of a request from said information acquiring apparatuses, and also transmits an information providing request to at least one of said information providing apparatuses based on said content of the request.

2. A service providing system as claimed in claim 1 wherein:

said intervening apparatus receives the information provided by said at least one of said information providing apparatuses; integrates said received information based on the request content of said information acquiring apparatus; and transmits the integrated information to said information acquiring apparatuses.

3. A service providing system as claimed in claim 1 or claim 2 wherein:

the request content of said information acquiring apparatus is a code indicative of a content of information required by said information acquiring apparatus.

4. A service providing system as claimed in claim 1 wherein:

said intervening apparatus receives the request content of said information acquiring apparatus; and transmits an information providing request to at least one of said information providing apparatuses based upon at least one of individual information related to said information acquiring apparatuses, individual information related to said information providing apparatuses, and environmental condition information surrounded around said information acquiring apparatuses and said information providing apparatuses.

5. A service providing system as claimed in claim 4 wherein:

said intervening apparatus receives information provided by at

least one of said information providing apparatuses; integrates said received information based upon at least one of individual information related to said information acquiring apparatuses, individual information related to said information providing apparatuses, and environmental condition information surrounded around said information acquiring apparatuses and said information providing apparatuses; and transmits the integrated information to said information acquiring apparatuses.

6. A service providing system as claimed in claim 4 or claim 5 wherein:

said individual information related to the information acquiring apparatuses is arranged by at least one of a fact related to a user of said information acquiring apparatuses, information extractable from a past history, present temporary information, and a future schedule.

7. A service providing system as claimed inclaim 4 or claim 5 wherein:

said individual information related to the information providing apparatuses is arranged by at least one of a fact related to a user of said information providing apparatuses, information extractable from a past history, present temporary information, and a future schedule.

8. A service providing system as claimed in claim 4 or claim 5 wherein:

said environmental condition information surrounded around said information acquiring apparatuses and said information providing apparatuses is arranged by at least one of a fact of an environment surrounded around said information acquiring apparatuses and said information providing apparatuses, information extractable from a past history, present temporary information, and a future schedule.

9. A service providing system as claimed in claim 4 wherein:

said intervening apparatus is constructed of a service management unit and an application unit for storing at least one application program; and said service management unit receives the request content from said information acquiring apparatus to select/initiate the application program of said application unit and transfer a proper value based upon at least one of individual information related to said information acquiring apparatuses, individual information related to said information providing apparatuses, and environmental condition information surrounded around said information acquiring apparatuses and said information providing apparatuses, and also accepts a request content from said application program to transmit an information providing request to at least one of said information providing apparatuses based upon at least one of individual information related to said information acquiring apparatuses, individual information related to said information providing apparatuses, and environmental condition information surrounded around said information acquiring apparatuses and said information providing apparatuses.

10. A service providing system as claimed in claim 5 wherein:

said intervening apparatus is constructed of a service management unit and an application unit for storing at least one application program; and said service management unit receives information provided by at least one of said information providing apparatuses to integrate said received information based upon at least one of

individual information related to said information acquiring apparatuses, individual information related to said information providing apparatuses, and environmental condition information surrounded around said information acquiring apparatuses and said information providing apparatuses, and also select/initiate the application program of said application unit to transfer the integrated information, and said service management unit accepts processed information from said application program to be transmitted to said information acquiring apparatus.

...SPECIFICATION concrete plan, and the service management unit 4 is required to transmit the information providing **computer** in order to check the elements for constituting this plan, for instance, empty information of an air line and a hotel. When the empty information is collected, the **travel plan** made by combining one combination among them is proposed to the end user. When the...

...the reservation request in order to reserve the air line and the hotel. An overseas **travel/option determining** program 80 **determines** various options, for instance, a reservation for a domestic transportation means up to an air...judged from the history and then are selected with a top priority. In the overseas **travel/option determining** program 80, since there are many cases that the train is used as the transportation...

6/7,K/3 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00866293
TRAVELER SERVICE SYSTEM WITH A GRAPHICAL USER INTERFACE FOR ACCESSING MULTIPLE TRAVEL SUPPLIERS
SYSTEME DE SERVICES POUR VOYAGEURS DOTE D'UNE INTERFACE GRAPHIQUE OFFRANT L'ACCES A DES FOURNISSEURS MULTIPLES DE VOYAGES
Patent Applicant/Assignee:
CARLSON COMPANIES INC, 701 Carlson Parkway, 14th Floor, Legal Department, Minnetonka, MN 55305, US, US (Residence), US (Nationality)
Patent Applicant/Inventor:
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OSTLUND Scott, 2634 Christine Court, White Bear Township, MN 55110, US, US (Residence), US (Nationality)
SCHREINER Craig, 3845 Gilbraltar Trail, Eagan, MN 55123, US, US (Residence), US (Nationality)
Legal Representative:
VIKSNINS Ann S (agent), Schwegman, Lundberg, Woessner & Kluth, P.O. Box 2938, Minneapolis, MN 55402, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200199022 A2 20011227 (WO 0199022)
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Priority Application: US 2000212920 20000620
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD

SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: G06F-017/60
Publication Language: English
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Fulltext Word Count: 12161

English Abstract

French Abstract

Legal Status (Type, Date, Text)
Publication 20011227 A2 With declaration under Article 17(2)(a); without abstract; title not checked by the International Searching Authority.

Claim
A method for providing travel services, the method comprising:
maintaining a traveler database having traveler information;
receiving a request for at least one travel service, the request identifying a
traveler;
requesting infonnation regarding the at least one travel service from a Global Distribution System (GDS);
retrieving traveler data from the traveler database; and
displaying the traveler data in conjunction with the infonnation from the GDS.

2 The method of claim 1, fin-ther comprising:
1 5 deferring a task related to the travel request;
routing the task to a travel counselor for completion.

3 The method of claim 2, wherein routing the task includes detennining the travel counselor to receive the task based on the type of task.

4 The method of claim 2, wherein routing the task includes detennining that a travel related service has become available.
33
. The method of claim 2, wherein routing the task includes detennining a skill grouping for the task.

6 The method of claim 1, wherein the at least one travel service includes an airline reservation service.

7 The method of claim 1, wherein the at least one travel service includes a hotel reservation service.

8 The method of claim 1, wherein the at least one travel service includes a rental car reservation service.

9 The method of claim 1, wherein the at least one travel service includes a train reservation service.

10 The method of claim 1, wherein the at least one travel service includes a limousine reservation service.
11 The method of claim 1, wherein retrieving traveler data from the traveler database includes retrieving data regarding a previous itinerary and flirther comprising copying the data regarding the previous itinerary into a current itinerary.
34
. The method of claim 1, wherein retrieving traveler data from the traveler database includes retrieving data regarding a co-traveler and flirther comprising copying the data regarding the co-traveler's itinerary into a current traveler's itinerary.

13 The method of claim 1, flirther comprising:
retrieving corporate travel data, said data including at least one travel policy;
determining a valid **travel** service **option** from the information from the
GDS in accordance with the at least one travel policy.

14 A computerized traveler service system comprising:
a travel services component capable of being communicably coupled to at least one Global Distribution System (GDS);
a database management system operably coupled to the travel services component;
a client database maintained by the database management system and having client infonnation; and
a traveler database maintained by the database management system and having traveler information;
wherein the travel services component presents graphical user interface (GUI) elements selected from the at least one GDS and the traveler database in response to a request.
35
. The computerized system of claim 14, wherein the at least one GDS includes the Sabre system.

16 The computerized system of claim 14, wherein the at least one GDS includes the Galileo system.

17 The computerized system of claim 14, wherein the at least one GDS incluides the Amadeus system. 1 0 1 S. The computerized system of claim 14, wherein the at least one GDS includes the Worldspan system.

19 The computerized system of claim 14, wherein the at least one GDS includes an airline reservation system.
1 5
20 The method of claim 14, wherein the at least one GDS includes a hotel reservation service.

21 The computerized system of claim 14, wherein the at least one GDS includes a rental car reservation system.

22 The computerized system of claim 14, wherein the at least one GDS includes a train reservation system.
36
. The computerized system of claim 14, wherein the at least one GDS includes a limousine reservation system.

24 The computerized system of claim 14, flirther comprising a call management system operative to forward requests to a user of the travel services component.

25 A computer-readable medium having computer-executable instructions for performing a method for providing travel services, the method comprising:
1 0 maintaining a traveler database having **traveler** infonnation;
receiving a **request** for at least one **travel** service, the **request** identifying a **traveler;**
requesting infonnation regarding the at least one travel service from a Global Distribution System (GDS);
1 5 retrieving traveler data from the traveler database; and
displaying the traveler data in conjunction with the infonnation from the GDS.

26 The computer-readable medium of claim 25, wherein the method further comprises:
deferring a task related to the **travel request;**
routing the task to a **travel** counselor for completion.
37
. The **computer**-readable medium of claim 26, wherein routing the task
includes detemiining the travel counselor to receive the task based on the type of task.

28 The computer-readable medium of claim 26, wherein routing the task includes detennining that a travel related service has become available.

29 The computer-readable medium of claim 26, wherein routing the task includes determining a skill grouping for the task.
1 0

30 The computer-readable medium of claim 25, wherein the at least one travel service includes an airline reservation service.

31 The computer-readable medium of claim 25, wherein the at least one
1 5 travel service includes a hotel reservation service.

32 The computer-readable medium of claim 25, wherein the at least one travel service includes a rental car reservation service.

33 The computer-readable medium of claim 25, wherein the at least one travel service includes a train reservation service.

34 The computer-readable medium of claim 25, wherein the at least one travel service includes a limousine reservation service.
38
. The computer-readable medium of claim 25, wherein retrieving traveler data from the traveler database includes retrieving data regarding a previous itinerary and flirther comprising copying the data regarding the previous itinerary into a current itinerary.
36 The computer-readable medium of claim 25, wherein retrieving traveler data from the traveler database includes retrieving data regarding a co-traveler and flirther comprising copying the data regarding the co-**traveler**'s **itinerary** into 1 0 a current **traveler**'s

itinerary.

37 The computer-readable medium of claim 25, wherein the method further compnses:
retrieving corporate travel data, said data including at least one travel policy;
detennining a valid travel service option from the infonnation from the GDS in accordance with the at least one travel policy.
39

Fulltext Availability:
Claims

Claim
... 1, flirther comprising:
retrieving corporate travel data, said data including at least one travel policy;
determining a valid **travel** service **option** from the information from the
GDS in accordance with the at least one travel policy...

...method for providing travel services, the method comprising:
1 0 maintaining a traveler database having **traveler** infonnation;
receiving a **request** for at least one **travel** service, the **request** identifying a
traveler;
requesting infonnation regarding the at least one travel service from a Global Distribution System (GDS...

...medium of claim 25, wherein the method further comprises:
deferring a task related to the **travel request**;
routing the task to a **travel** counselor for completion.
37
. The **computer**-readable medium of claim 26, wherein routing the task
includes detemiining the travel counselor to...

...retrieving data regarding a co-traveler and flirther comprising copying the data regarding the co-**traveler**'s **itinerary** into 1 0 a current **traveler**'s **itinerary**.

37 The computer-readable medium of claim 25, wherein the method further compnses:
retrieving corporate...

6/7,K/4 (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00800766
A METHOD FOR GENERATING A DIVERSE SET OF TRAVEL OPTIONS
PROCEDE DE CREATION D'UN ENSEMBLE VARIE D'OPTIONS DE VOYAGE
Patent Applicant/Assignee:
ITA SOFTWARE INC, One Kendall Square, Building 400, Cambridge, MA 2139, US, US (Residence), US (Nationality), (For all designated states

except: US)
Patent Applicant/Inventor:
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Legal Representative:
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Patent and Priority Information (Country, Number, Date):
Patent: WO 200133473 A2 20010510 (WO 0133473)
Application: WO 2000US41675 20001027 (PCT/WO US0041675)
Priority Application: US 99431699 19991101
Parent Application/Grant:
Related by Continuation to: US 99431699 19991101 (CON)
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: G06F-017/60
Publication Language: English
Filing Language: English
Fulltext Word Count: 3662

English Abstract

French Abstract

Legal Status (Type, Date, Text)

Publication	20010510	A2 Without international search report and to be republished upon receipt of that report.
Examination	20011011	Request for preliminary examination prior to end of 19th month from priority date
Declaration	20030130	Late publication under Article 17.2a
Republication	20030130	A2 With declaration under Article 17(2)(a); without abstract; title not checked by the International Searching Authority.

Claim
CLAIMS

1 A method for providing a set of travel options comprises:
reducing a larger set of travel options to a smaller set of diverse travel options.

2 The method of claim 1 wherein reducing a larger set of travel options to a smaller set of diverse travel 10 options comprises:
generating one or more travel options consistent for each of a diversity of travel requirements.

3 The method of claim 1 wherein reducing a larger

15 set of travel options to a smaller set of diverse travel options comprises:
generating one or more desired travel options consistent with a diversity of travel requirements.
20 4. The method of claim 1 wherein reducing a larger set of travel options to a smaller set of diverse travel options further comprises:
generating one or more of the best travel options consistent with a diversity of travel requirements
25 where the travel requirements are dependent on the original set of travel options.

5 The method of claim 1 wherein the set of travel requirements includes requirements for different airlines.

6 The method of claim 1 wherein the set of travel requirements includes requirements for travel times of day, travel dates, numbers of stops, arrival or departure airports, and cabin class.
. The method of claim 1 wherein the set of travel requirements includes requirements that are combinations of other requirements.
5 8. The method of claim 7 wherein the set of travel requirement combinations include outbound and return travel dates or times of day.

9 The method of claim 7 wherein the set of travel requirement combinations include airlines and number of stops, arrival and departure airports.

10 A method for reducing a larger set of travel options to a smaller set of diverse travel options comprises:
generating one or more travel options that are best
for each of a set of travel preference functions.

11 The method of claim 10 wherein the travel preference functions include functions that optimize cost or functions that optimize convenience.

12 The method of claim 10 wherein the travel preference functions include both functions that optimize cost and functions that optimize convenience and functions that optimize combinations of cost and convenience.
13 A method generating a diverse list of N travel options Rts from a larger list of travel options Ts, comprises:
generating a prioritized ordered list of requirements Rs;
sorting the list of travel options Ts by an
35 ordering function F to produce a best-first ordered list
- 13
Ts2 with the list of options being optimized travel options for a set of travel requirements R in accordance with the ordering function F.

14 The method of claim 13 further comprising:
initializing the list of result travel options
RTs to be empty; and if the remaining list of requirements
Rs is empty, returning an ordered list of diverse travel
options Rts.

15 The method of claim 14 further comprising:
initializing the list of result travel options
RTs to be empty; and if the remaining list of requirements
Rs is not empty,
selecting a first travel requirement R from the
ordered list of requirements (Rs); and
removing a requirement R from the requirement
list (Rs).

16 The method of claim 15 further comprising:
finding a first option T in a best-first ordered
list (Ts2) that satisfies travel requirement R.

17 The method of claim 16 further comprising:
determine whether any option in the Ts2
satisfies the travel requirement.

18 The method of claim 17 wherein if no option in
Ts2 satisfies R, the method further comprises:
checking if the remaining list of requirements
Rs is empty.

19 The method of claim 18 wherein if the diversity
process **determines** if a **travel option** T is not already
in
35 the result list Rts,
adding the travel option T to end of the result
travel option list Rts; and
determining if the size of the **travel option**
list RTs is equal to or greater than N the process in
order to return the ordered list of diverse travel
options.

20 The method of claim 15 further comprising:
determining for each travel requirement R2 in
Rs, whether the requirement R2 includes a requirement R,
and T satisfies R2, and if T satisfies R2;
removing R2 from Rs.

21 A travel planning system that outputs a set of
travel options smaller than a complete set of travel
options that the server has computed by pruning the larger
set of options to a smaller set with a diversity-based
pruning process.

22 The travel planning system of claim 13 wherein
the diversity-based pruning process comprises instructions
to cause the system to:
generate a diverse list of N travel options Rts
from a larger list of travel options Ts,
generate a prioritized ordered list of

requirements Rs;
sort the list of travel options Ts by an
ordering function F to produce a best-first ordered list
Ts2 with the list of options being optimized travel
options for a set of travel requirements R in accordance
with the ordering function F.

23 The travel planning system of claim 23 further
comprising instructions to cause the system to:
initialize the list of result travel options RTs
- 15
to be empty; and if the remaining list of requirements Rs
is empty, return an ordered list of diverse travel
options Rts.

24 The travel planning system of claim 24 further
comprising instructions to cause the system to:
initialize the list of result travel options RTs
to be empty; and if the remaining list of requirements Rs
is not empty,
select a first travel requirement R from the
ordered list of requirements (Rs); and
remove a requirement R from the requirement list
(Rs).

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... airline, bus and
railroad and is particularly adapted for air travel. it
includes a server **computer** 12 having a **computer** memory or
storage media 14 storing a server process 15. The server
process includes a...

...18. The scheduier process 16 is any suitable
scheduler process that will produce from a **travel request**
sets of flights that can satisfy the request. The faring
process 18 is a process...check 74 if the remaining list of requirements
(Rs) is empty. Otherwise, the diversity process
determines 76 if a **travel option** T is not already in
result travel options list (Rts). If the option T is to **find** all
parameters e.g., airlines found in
any **travel option**, all departure dates for outbound and
return, and all departure parts-of-day (morning,
afternoon...

...complicated
operation than searching through an ordered list. With
the pricing-graph the process for **finding** the best **travel**
option that satisfies a travel requirement may be
implemented for a representation that expresses travel
options...

Claim
... requirements

Rs is empty.

19 The method of claim 18 wherein if the diversity process **determines** if a **travel option** T is not already in
35 the result list Rts,
adding the travel option T to end of the result **travel option** list Rts; and
determining if the size of the **travel option** list RTs is equal to or greater than N the process in order to return...

6/7,K/5 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00800757
A METHOD FOR GENERATING A DIVERSE SET OF TRAVEL OPTIONS
PROCEDE D'ETABLISSEMENT D'ENSEMBLE DIVERSIFIE D'OPTIONS DE VOYAGE
Patent Applicant/Assignee:
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Patent Applicant/Inventor:
DEMARCKEN Carl G, 16 Bristol Street #2, Cambridge, MA 02141, US, US (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
MALONEY Denis G (agent), Fish & Richardson, P.C., 225 Franklin Street, Boston, MA 02110-2804, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200133394 A2 20010510 (WO 0133394)
Application: WO 2000US29586 20001027 (PCT/WO US0029586)
Priority Application: US 99431365 19991101
Parent Application/Grant:
Related by Continuation to: US 99431365 19991101 (CON)
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: G06F-017/60
Publication Language: English
Filing Language: English
Fulltext Word Count: 13098

English Abstract

French Abstract
Cette invention a trait a un systeme de planification d'itineraires d'une compagnie aerienne. Il comporte un ordinateur serveur executant un programme serveur, notamment un programme de recherche permettant d'explorer un ensemble de formules de tarification en rapport avec au

moins une destination et au moins un point de depart. Ce programme de recherche represente l'ensemble de formules de tarification sous forme de graphe acyclique dirigee. Le systeme comporte egalement un ordinateur client executant un programme client sur l'ensemble des formules de tarification. Le programme client possede un programme de manipulation qui manipule l'ensemble de solutions tarifaires en reponse aux preferences de l'utilisateur. Cette invention concerne plusieurs programmes qui comprennent un programme attentif aux preferences de l'utilisateur et a l'ensemble de formules de tarification fournissant des solutions tarifaires classees selon les preferences de l'utilisateur, un programme qui trie l'ensemble de solutions tarifaires afin de creer un sous-ensemble de l'ensemble de solutions de tarification en fonction des preferences specifiees de l'utilisateur, et un programme qui supprime de la courbe acyclique dirigee les noeuds qui ne font plus partie du sous-ensemble de l'ensemble des solutions tarifaires.

Legal Status (Type, Date, Text)

Publication	20010510	A2 Without international search report and to be republished upon receipt of that report.
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Declaration	20020620	Late publication under Article 17.2a
Republication	20020620	A2 With declaration under Article 17(2)(a); without abstract; title not checked by the International Searching Authority.

Claim

1 A travel planning system that outputs a set of travel options smaller than the complete set of travel options it has computed by pruning the larger set of options to a smaller set with a diversity-based pruning method, where the larger set is represented by a compact representation.

2 The travel planning system of claim 1 wherein the compact representation is a pricing graph.

Fulltext Availability:
Detailed Description

Detailed Description
... 18. The scheduier process 16 is any suitable scheduler process that will produce from a **travel request** sets of flights that can satisfy the request. The faring process 18 is a process...complicated operation than searching through an ordered list. With the pricing-graph the process for **finding** 370 the 5 best **travel option** that satisfies a travel requirement is implemented for a representation that expresses travel options in...check 374 if the remaining list of requirements (Rs) is empty. Otherwise, the diversity process **determines** 376 if a **travel option** T is not already in result travel options list (Rts). If the option T is...

...departure date <date2>.

The large candidate set of travel options may be analyzed 394 to **find** all parameters e.g., airlines found in any **travel** - 45
option, all departure dates for outbound and return, and all departure parts-of-day (morning, afternoon...

6/7,K/6 (Item 4 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00538780 **Image available**
TRAVEL PLANNING SYSTEM
SYSTEME DE PLANIFICATION D'ITINERAIRES
Patent Applicant/Assignee:
ITA SOFTWARE INC,
Inventor(s):
DEMARCKEN Carl G,
WERTHEIMER Jeremy,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200002153 A1 20000113 (WO 0002153)
Application: WO 99US14964 19990701 (PCT/WO US9914964)
Priority Application: US 98109327 19980702; US 98109328 19980702; US 98109486 19980702; US 98109622 19980702; US 98109871 19980702; US 98109873 19980702; US 98109876 19980702
Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Main International Patent Class: G06F-017/60
Publication Language: English
Fulltext Word Count: 26931

English Abstract
An airline travel planning system is described. The system includes a server computer executing a server process including a search process to search for set of pricing solutions in accordance with at least one destination and at least one origin. The search process represents the set of pricing solutions in the form of a directed acyclic graph. The system also includes a client computer executing a client process on the set of pricing solutions. The client process has a manipulation process that manipulates the set of pricing solutions in response to user preferences. Several processes are described including a process responsive to user preferences and to set of pricing solutions that provides pricing solutions sorted by said user preference, a process that sorts set of pricing solutions to produce a subset of said set of pricing solutions in accordance with user specified preferences, and a process that prunes from the directed acyclic graph nodes that are no longer contained within the subset of set of pricing solutions.

French Abstract
La presente invention concerne un systeme de planification des itineraires d'une compagnie aerienne. Ce systeme comprend un ordinateur serveur executant un programme serveur au moyen d'un programme de recherche permettant de chercher un ensemble de solutions tarifaires en

fonction d'au moins un point de destination et un point d'origine. Le procede de recherche represente l'ensemble des solutions tarifaires sous la forme d'une courbe acyclique dirigee. Ce systeme comprend egalement un ordinateur client qui execute un programme client au niveau de l'ensemble des solutions tarifaires. Le programme client possede un programme de manipulation qui manipule l'ensemble des solutions tarifaires en reponse aux preferences de l'utilisateur. Par ailleurs, cette invention concerne de nombreux programmes qui comprennent un programme receptif aux preferences de l'utilisateur ainsi qu'a l'ensemble des solutions tarifaires fournissant des solutions tarifaires triees en fonction des preferences de l'utilisateur, un programme qui trie les solutions tarifaires pour produire un sous-ensemble dudit ensemble de solutions tarifaires en fonction des preferences specifiees de l'utilisateur, ainsi qu'un programme qui supprime de la courbe acyclique dirigee les noeuds qui ne sont plus contenus dans le sous-ensemble de solutions tarifaires.

Claim

CLAIMS

1 A travel planning system comprising:
a process that receives travel planning information, said process comprising:
a manipulation process that operates on the travel planning information and produces a graphical user interface representative of information in the travel planning system, said
1 0 graphical user interface comprising:
a region that displays a metric of the itinerary information in a graph representation with the metric being associated with an executed user query.
1 5

2 The system of claim 1 wherein said process is a client process and said method further comprises:
a server process that determines travel planning information in response to travel request information.

3 The system of claim 1 wherein said man@pulation process operates on the travel planning information in accordance with at least one user preference input, and further comprises:
a process that produces a set of travel planning information by fare in accordance with the at least one user preference input.

4 The system of claim 3 wherein said process further comprises a process that enumerates said travel planning information by lowest price.

5 The system of claim 1 wherein the travel planning
5 information is a set of pricing solutions and said manipulation process of the client process further comprises:
a process that finds for the set of pricing solutions a pricing solution that optimizes a value function.

6 The system of claim 5 wherein said process **finds** for a **travel option** a best **travel option** involving an itinerary.
7 The system of claim 1 wherein the manipulation process further comprises:
an enumerating process that uses the set of pricing solutions to produce a subset of the set of pricing solutions in accordance with a user specified preference.

8 The system of claim 7 wherein said enumeration process further comprises:
a process that prunes from the set of pricing solutions, a set of pricing solutions that do not correspond to a user preference.

9 The system of claim 1 wherein graphical user interface further comprises:
a user query section comprised of a plurality of controls that can be used to specify information in a user query.

10 The system of claim 9 wherein the graphical user interface further comprises:
a field comprised of a plurality of icons representing airlines that are associated with itineraries in the graph representation.
1 0

11 The system of claim 1 wherein the graphical user interface further comprises:
a user query section comprised of a plurality of controls that can be used to specify information in a user query;
a field comprised of a plurality of icons representing airlines that are associated with itineraries in the graph representation.

12 The system of claim 12 wherein the graphical user interface further comprises a plurality of icons associated with locations that are represen@ed in the graph representation.

13 The system of claim 12 wherein the graphical user interface further comprises a field that displays a total fare associated with a corresponding itinerary in the graph representation.
14 The system of claim 12 wherein the graphical user interface further comprises at least one control that selectively prunes from the graph representation itineraries that do not correspond to a value associated with the at least one control.

15 The system of claim 15 wherein the at least one control comprises at least one of a nonstop control,

direct control, same airline control, the airline icons, airport icons, a first class arrangement control, second class arrangement control or refundable ticket control.

16 The system of claim 12 wherein the graph representation in the graphical user interface is a histogram.

17 The system of claim 12 wherein the graph representation in the graphical user interface is a bar graph.

18 The system of claim 12 wherein the graphical user interface further comprises:
a itinerary region that displays a selpcted itinerary including information pertaining to segments of the itinerary.

19 The system of claim 19 wherein the graphical user interface that displays a selected itinerary is presented by selecting one of the itineraries in the graphical region that displays itineraries.

20 The system of claim 19 wherein the graphical user interface is displayed in a separate window.

21 The system of claim 12 wherein the graphical user 5 interface that displays metrics of itineraries shows results of activating at least one control that selectively prunes itineraries.

22 The system of claim 12 wherein the graphical user interface further comprises a plurality of icons having a visual appearance and that represent travel information, and wherein the graphical region that displays metrics of itineraries shows results of activating the at least one control that selectively 1 5 prunes itineraries by changing a visual presentation of those icons in the graphical user interface that do not correspond to itineraries that remain in the graphical region after pruning.

23 The system of claim 22 wherein the graphical user interface that displays metrics of itineraries shows itineraries for different slices of a journey in different subregions of the graphical region.

24 The system of claim 4 wherein the set of pricing solutions is represented by a data structure comprising:
a first plurality of choice nodes that represent exclusive pricing solutions;
a second plurality of combining nodes that represent collective pricing solutions; and
a third plurality of terminal nodes that represent pricing objects.

25 The system of claim 25 wherein the pricing objects

of the third plurality of terminal nodes comprise pricing objects that include fares.

26 The system of claim 25 wherein the third plurality of terminal nodes comprise pricing objects that include one or more of itineraries, routes, fares, prices, booking codes, surcharges, taxes or rules/regulations.

27 The system of claim 25 wherein the third plurality of terminal nodes comprise a field having a value to indicate whether the node is valid or invalid.

28 The system of claim 25 wherein the combining nodes contain values of subsequent nodes that are combined to produce a pricing solution.

29 The system of claim 25 wherein a first.portion of the first plurality of exclusive nodes refer to subsequent combining nodes.

30 The system of claim 30 wherein a second portion of said first plurality of exclusive nodes refer to terminal nodes.
31 The system of claim 25 wherein the data structure ill
is a directed acyciic graph.

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... 18. The scheduler process 16 is any suitable scheduler process that will produce from a **travel request** sets of flights that can satisfy the request. The faring process 18 is a process...

Claim
... solution that optimizes a value function.

6 The system of claim 5 wherein said process **finds** for a **travel option** a best **travel option** involving an itinerary.

7 The system of claim 1 wherein the manipulation process further comprises...

6/7,K/7 (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00538779 **Image available**
PRICING GRAPH REPRESENTATION FOR SETS OF PRICING SOLUTIONS FOR TRAVEL PLANNING SYSTEM

REPRESENTATION DE LA COURBE DES TARIFICATIONS DES ENSEMBLES DE SOLUTIONS TARIFAIRES POUR UN SYSTEME DE PLANIFICATION D'ITINERAIRES

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English Abstract
An airline travel planning system is described. The system includes a server computer executing a server process including a search process to search for set of pricing solutions in accordance with at least one destination and at least one origin. The search process represents the set of pricing solutions in the form of a directed acyclic graph. The system also includes a client computer executing a client process on the set of pricing solutions. The client process has a manipulation process that manipulates the set of pricing solutions in response to user preferences. Several processes are described including a process responsive to user preferences and to set of pricing solutions that provides pricing solutions sorted by said user preference, a process that sorts set of pricing solutions to produce a subset of said set of pricing solutions in accordance with user specified preferences, and a process that prunes from the directed acyclic graph nodes that are no longer contained within the subset of set of pricing solutions.

French Abstract
La presente invention concerne un systeme de planification d'itineraires d'une compagnie aerienne. Ce systeme comprend un ordinateur serveur executant un programme serveur qui contient un programme de recherche permettant de rechercher un ensemble de solutions tarifaires en fonction d'au moins un point de destination et d'au moins un point de depart. Le programme de recherche represente l'ensemble de solutions tarifaires sous la forme d'une courbe acyclique dirigee. Ce systeme comprend egalement un ordinateur client qui execute un programme client sur la base de l'ensemble de solutions tarifaires. Le programme client possede un programme de manipulation qui manipule l'ensemble de solutions tarifaires

en reponse aux preferences de l'utilisateur. Cette invention concerne plusieurs programmes qui comprennent un programme receptif aux preferences de l'utilisateur et a l'ensemble de solutions tarifaires fournissant des solutions tarifaires triees selon les preferences de l'utilisateur, un programme qui trie l'ensemble de solutions tarifaires afin de creer un sous-ensemble de l'ensemble de solutions de tarification en fonction des preferences specifiees de l'utilisateur, et un programme qui supprime de la courbe acyclique dirigee les noeuds qui ne font plus partie du sous-ensemble de l'ensemble des solutions tarifaires.

Legal Status (Type, Date, Text)
Search Rpt 20011011 Late publication of international search report
Republication 20011011 A3 With international search report.

Claim
CLAIMS

1 A method executed in a computer system comprising:
parsing at least one itinerary set into faring
5 atoms that correspond to one or more travel unit
segments spanned by a single fare; and
applying rules to the faring atoms to produce fare
components.

2 The method of claim 1 wherein faring atoms are
shared across itineraries.
3 The method of claim 2 further comprising:
constructing from the fare components a set of
fares that are valid for and associated with the at
least one itinerary set.

4 The method of claim 3 wherein constructing a set of
fares further comprises:
constructing priceable units from the fare
components; and
linking itineraries and priceable units into
pricing solutions.
S. The method of claim 2 wherein the pricing solutions
correspond to the set of valid fares and information
linking the set of valid fares to segments of the
journey.

6 The method of claim 2 wherein linking itineraries
and priceable units, comprises linking the itineraries
and priceable units through a data structure that
represents the set of pricing solutions in a compact
form.
7 The method of claim 6 wherein applying rules
further comprises:
deferring applying a rule to a faring atom if the
rule references information outside of the faring atom;
and
applying deferred rules when all fare components
for evaluating the rule have been delivered to the fare.

8 The method of claim 3 wherein parsing of
itineraries into faring atoms further comprises:

grouping faring atoms by faring markets; and
partitioning itineraries into divisions of faring atoms.

9 The method of claim 3 wherein partitioning itineraries further comprises:
splitting sequences of legs of itinerarlies into individual faring atoms if the legs are on a same airline.

10 The method of claim 6 wherein the pricing solutions represented in the compact form are represented as a graph type data structure having substantially fewer codes than pricing solutions represented by the data structure.

11 The method of claim I wherein the method is executed as a server process that determines travel planning information in response to travel request
5 information from a client process that receives said travel planning information, said client process comprising:
manipulating the travel planning information.

12 The method of claim 11 wherein manipulating the travel planning information is performed in accordance with at least one user preference input, and further comprises
producing a set of travel planning information by fare in accordance with the at least one user preference input.

13 The method of claim 12 wherein producing further comprises sorting said travel planning information by lowest price.

14 The method of claim 11 wherein manipulating further comprises:
finding for the set of pricing solutions a pricing solution that optimizes a value function.

15 The method of claim 14 wherein **finding** a value function **finds** for a **travel option** a best **travel option**
involving an itinerary.

16 The method of claim 11 wherein manipulating further comprises:
enumerating a subset of the set of pricing solutions in accordance with a user specified preference based on the set of pricing solutions.

17 The method of claim 16 wherein enumerating further comprises:
pruning from the set of pricing solutions, a set of pricing solutions that do not correspond to a user preference.

18 The method of claim 1 wherein applying rules further comprises:
applying a fare rule for a fare to an itinerary to determine if the fare can be used with the itinerary; and
storing results of applying the rule.

19 The method of claim 18 further comprising:
determining for a subsequent application of the fare rule whether there is a result that cor@responds to a previous application of the fare rule to be applied to a fare component and, if there is a stored result, return the stored result.

20 The method of claim 19 wherein if the rule does not have a corresponding stored result, further comprising applying the rule to the itinerary and storing the result of applying of the rule.

21 The method of claim 4 wherein constructing priceable units further comprises:
enumerating a collection of faring markets;
enumerating collections of sets of faring components by selecting sets of fare components for each faring market;
enumerating collections of faring components by operating on sets of fare components to evaluate deferred record-21s on collections of fare components; and
representing the enumerated collections of faring components by priceable unit labels and priceable unit cores.

22 The method of claim 21 wherein enumerating collections of faring markets further comprises:
enumerating said collections of faring markets in accordance with the type of priceable units that are constructed.

23 The method of claim 22 wherein said typp of priceable units are a one-way priceable unit, a round trip priceable unit, an open jaw priceable unit, or a circle trip priceable unit.

24 The method of claim 23 wherein said enumerating of collections of sets of faring components by applying deferred record-21s further comprises applying deferred record-21s to the collection of fare components.

25 The method of claim 11 wherein the client process further comprises:
generating a graphical user interface, said graphical user interface having a graphic region that displays a metric of the itinerary information in a graph representation with the metric associated with an executed user query.

26 The method of claim 25 further comprising:
specifying information in a user query section of the graphical user interface;
representing in a field comprised of a plurality of icons airlines that are associated with itineraries in the graph representation.
27 The method of claim 3 further comprising:
representing the set of fares in a data structure comprising:
a first plurality of choice nodes that represent exclusive pricing solutions;
a second plurality of combining nodes that represent collective pricing solutions; and
a third plurality of terminal nodes that represent pricing objects.

28 The method of claim 27 wherein said pricing objects of the third plurality of terminal nodes comprise pricing objects that include fares.
. The method of claim 27 wherein said pricing objects of the third plurality of terminal nodes comprise pricing objects that include itineraries.

30 The method of claim 27 wherein said third plurality of terminal nodes comprise pricing objects that include one or more of itineraries, routes, fares, prices, booking codes, surcharges, taxes or rules/regulations.
31 The method of claim 27 wherein said third plurality of terminal nodes comprise a field having a value to indicate whether the node is valid or invalid.

32 The method of claim 27 wherein representing further 1 5 comprises:
combining subsequent nodes based on values in the combining nodes to produce a pricing solution.

33 A computer program product residing on a computer readable medium for producing comprises instructions for causing a computer to:
parse at least one itinerary set into faring atoms that correspond to one or more travel unit segments spanned by a single fare; and
apply rules to the faring atoms to produce fare components.

34 The computer program product of claim 33 wherein faring atoms are shared across itineraries.

35 The computer program product of claim 34 further comprising instructions for causing a computer to:
construct from the fare components a set of fares that are valid for and associated with the at least one itinerary set.

36 The computer program product of claim 35 wherein instructions to construct a set of fares further

comprises instructions to:
construct priceable units from the fare components;
and
link itineraries and priceable units into pricing
solutions.

37 The computer program product of claim 36 wherein
15 the pricing solutions correspond to the set of valid
fares and information linking the set of valid fares to
segments of the journey.

38 The computer program product of claim 36 wherein
instructions to link itineraries and priceable units,
comprises instructions to link the itineraries and
priceable units through a data structure thAt represents
the set of pricing solutions in a compact form.
25 39. The computer program product of claim 38 wherein
instructions to apply rules further comprises
instructions to:
defer applying a rule to a faring atom if the rule
references information outside of the faring atom; and
apply deferred rules when all fare components for
evaluating the rule have been delivered to the fare.

40 The computer program product of claim 33 wherein
instructions to parse itineraries into faring atoms
further comprises:
group faring atoms by faring markets; and
partition itineraries into divisions of faring
atoms.

41 The computer program product of claim 36 wherein
the pricing solutions represented in the compact form
are represented as a graph type data structure having
substantially fewer codes than pricing solutions
represented by the data structure.
42 The computer program product of claim 33 wherein
the product is executed as a server process that
determines travel planning information in response to
travel request information from a client process that
receives said travel planning information, said client
process comprising instructions to cause a client
computer to:
manipulate the travel planning information.

43 The computer program product of claim 51 wherein
instructions to manipulate the travel planning
information are in accordance with at least one user
preference input, and further comprises instructions to:
produce a set of travel planning information by
fare in accordance with the at least one user preference
input.

44 The computer program product of claim 52 wherein
instructions to produce further comprises instructions
to:
sort said travel planning information by lowest

price.
45 The computer program product of claim 51 wherein instructions to manipulate further comprise instructions to:
find for the set of pricing solutions a pricing solution that optimizes a value function.

46 The computer program product of claim 54 wherein instructions to **find** a value function finds for a **travel option** a best **travel option** involving an **itinerary**.

47 The computer program product of claim 51 wherein instructions to manipulate further comprise instructions to:
enumerate a subset of the set of pricing solutions in accordance with a user specified preference based on the set of pricing solutions.

48 The computer program product of claim 56 wherein instructions to enumerate further comprise instructions to:
prune from the set of pricing solutions, a set of pricing solutions that do not correspond to a user preference.

49 The computer program product of claim 33 wherein instructions to apply rules further comprise instructions to:
apply a fare rule for a fare to an itinerary to determine if the fare can be used with the itinerary; and
store results of applying the rule.

50 The computer program product of claim 58 further comprising instruction to:
determine for a subsequent application of the fare rule whether there is a result that corresponds to a previous application of the fare rule to be applied to a fare component and, if there is a stored result, return the stored result.

51 The computer program product of claim 36 wherein instructions to construct priceable units further comprise instructions to:
enumerate a collection of faring markets;
enumerate collections of sets of faringcomponents by selecting sets of fare components for each faring market;
enumerate collections of faring components by operating on sets of fare components to evaluate deferred record-21s on collections of fare components; and
represent the enumerated collections of faring components by priceable unit labels and priceable unit cores.

52 The computer program product of claim 60 wherein instructions to enumerate collections of faring markets 5 further comprise instructions to:
enumerate said collections of faring markets in accordance with the type of priceable units that are constructed.

53 The computer program product of claim 61 wherein said type of priceable units are a one-way priceable unit, a round trip priceable unit, an open jaw priceable unit, or a circle trip priceable unit.

54 The computer program product of claim 61 wherein instructions tod enumerate collections of sets of faring components by applying deferred record-21s further comprise instructions to:
apply deferred record-2's to the collection of fare components.

55 The computer program product of claim 51 wherein the client process further comprises instructions to:
generate a graphical user interface, said graphical user interface having a graphic region that displays a metric of the itinerary information in a graph representation with the metric associated with an executed user query.

56 The computer program product of claim 64 further comprising instructions to:
specify information in a user query section of the graphical user interface;
represent in a field comprised of a plurality of icons airlines that are associated with itineraries in the graph representation.

57 The computer program product of claim 53 further comprising instructions to represent the set of fares in a data structure comprising:
a first plurality of choice nodes that represent exclusive pricing solutions;
a second plurality of combining nodes that represent collective pricing solutions; and
a third plurality of terminal nodes that represent pricing objects.

58 A computer system for determining pricing solutions comprises:
a computer; and
a computer readable medium storing a computer program that causes the computer to:
parse at least one itinerary set into fpLring atoms that correspond to one or more travel unit segments spanned by a single fare; and
apply rules to the faring atoms to produce fare components.

59 The computer system of claim 67 wherein the

computer program product operates on faring atoms are shared across itineraries.

60 The computer system of claim 67 wherein the computer program product further comprising instructions for causing a computer to:
construct from the fare components a set of fares that are valid for and associated with the at least one itinerary set.

61 The computer system of claim 67 wherein the computer program product that comprises instructions to construct a set of fares further comprises instructions to:
construct priceable units from the fare components; and
link itineraries and priceable units into pricing solutions.

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... The scheduler process 16 is any suitable scheduler process that will produce from a 10 **travel request** sets of flights that can satisfy the request. The faring process 18 is a process...

Claim
... a pricing solution that optimizes a value function.

15 The method of claim 14 wherein **finding** a value function **finds** for a **travel option** a best **travel option** involving an itinerary.

16 The method of claim 11 wherein manipulating further comprises:
enumerating a...product is executed as a server process that determines travel planning information in response to **travel request** information from a client process that receives said travel planning information, said client process comprising instructions to cause a client **computer** to:
manipulate the travel planning information.

43 The computer program product of claim 51 wherein...
...optimizes a value function.

46 The computer program product of claim 54 wherein instructions to **find** a value function finds for a **travel option** a best **travel option** involving an **itinerary**.

47 The computer program product of claim 51 wherein instructions to manipulate further comprise instructions...

6/7,K/8 (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00161420 **Image available**
TRAVEL MANAGEMENT SYSTEM
SYSTEME DE GESTION DES VOYAGES
Patent Applicant/Assignee:
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Inventor(s):
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GRINDELAND James G,
MAYER Bruce J,
SLEIGHTER Kurt B,
Patent and Priority Information (Country, Number, Date):
Patent: WO 8907798 A1 19890824
Application: WO 89US684 19890221 (PCT/WO US8900684)
Priority Application: US 88339 19880222
Designated States: AT AU BE CH DE FR GB IT LU NL SE
Main International Patent Class: G06F-015/22
International Patent Class: G06F-15:20
Publication Language: English
Fulltext Word Count: 6010

English Abstract
A remote data base (13) containing flight schedule and fare information is accessed from a local computer terminal (12). Limitations on the applicability of the fare information are inferred from a locally stored expert rule base. A locally stored travel policy can be applied to the retrieved information to select a plurality of potentially preferred flight/fare alternatives. The flight/fare alternatives are displayed for selection of a preferred itinerary.

French Abstract
A partir d'un terminal (12) d'ordinateur local on accede a une base de donnees eloignee (13) contenant des informations relatives aux horaires et aux tarifs de vols. On peut obtenir les restrictions relatives a l'applicabilite des informations se rapportant aux tarifs, a partir d'une base de reglementation experte stockee localement. On peut appliquer un plan de voyage stocke localement aux informations rassemblees, afin de choisir une pluralite de possibilites de vols et de tarifs preferes. Les possibilites de vols et de tarifs sont affichees afin de permettre de choisir un itineraire prefere.

Claim
A method for determining travel itineraries from a travel data base having separate schedule, fare, and fare limitations data files, comprising the steps of:
compiling an expert rule base having a plurality of rules, the rules in the rule base pertaining to fare limitations maintained in said fare limitations data file and having predetermined individual activation criteria;
retrieving data on scheduled flights from

said schedule data file for a desired travel
time to obtain available scheduled flights
between a selected origin and destination
points;
retrieving fare data from said fare data
file for each of said available scheduled
flights to present at least one flight/fare
alternative; and
comparing the fare data for said
flight/fare alternative against the individual
activation criteria of each of said rules to
determine whether the fare limitations of each
of said rules are applicable to said
flight/fare alternative, whereby the applica
bility of said flight/fare alternative is
determined without accessing said fare limitations data file.

2 The invention as claimed in claim 1, said
fare data including fare codes and said activation
criteria including fare code criteria, said step of
comparing said fare data against said activation
criteria of each of said rules including the step of
comparing said fare codes for said flight/fare alternative against said
fare code criteria.
3* The invention as claimed in claim 2, said
f are code comprising an alpha numeric code word, said
step of comparing said fare codes for said flight/fare
alternative against said fare code criteria including
the step of analyzing the alpha numeric code word with
a pattern matching technique,

4 The invention as claimed in claim 1, includ
ing the step of periodically updating the expert rule
base by retrieving fare limitations data from said fare
limitations data files and comparing the rules,of the
rule base to the fare limitations data.
5 A method for displaying a plurality of
scheduled flight/fare alternatives for the travel
segments of a round trip travel itinerary comprising
the steps of:
simultaneously displaying at least some of
said flight/fare alternatives;
visually distinguishing the preferred
flight/fare alternative for each travel segment
of-said travel itinerary from the remaining of
said flight/fare alternatives;
determining which of said remaining
flight/fare alternatives are combinable ' with
said preferred flight/fare alternatives to
create a round trip travel itinerary;
visually distinguishing said combinable
remaining flight/fare alternatives from said
preferred flight/fare alternatives and the
remaining flight/fare alternatives that are not
combinable with said preferred flight/fare
alternatives. 6e The invention as claimed in claim 5, includ
ing the step bf determining the preferred flight/fare

alternative in accordance with a predetermined travel policy.

7 The invention as claimed in claim 6, includ
- 21
ing the step of overriding said predetermined travel policy and selecting one of said flight/fare alternatives as the preferred flight/fare alternative.

Fulltext Availability:
Detailed Description

Detailed Description
... system 10 inputs a travel origin and a final destination for each segment of a **travel itinerary**, and the time the **travel** will occur, at the local **computer** terminal, step 24. The operator next presses a connect key, step 26, thereby establishing a connection between the local **computer** system 11 and the remote **computer** system 17, Flight scheduling information, fare information, and flight fare limitation information stored in the remote **computer** system data base can be read by the local **computer** system 11, step 28. (As will be explained in detail below, an expert rule based stored at the local **computer** system 11 precludes the need to access the fare limitations data base each time the travel management system is used.) Once requested information is received from the remote **computer** system 17, the information is analyzed, scored, and sorted in accordance with the expert rule...

...and combine flight/fare alternatives recommended by the travel policy software to create a selected **travel itinerary**, step 32.

The read information function of step 28 of Fig. 2 is set f...the trip segment under consideration.

Whether or not a flight/fare alternative is a viable **travel option** for the given trip segment is **determined** by directing program flow to step 46, the evaluate-fares step, The fare evaluation process...

```
? ds

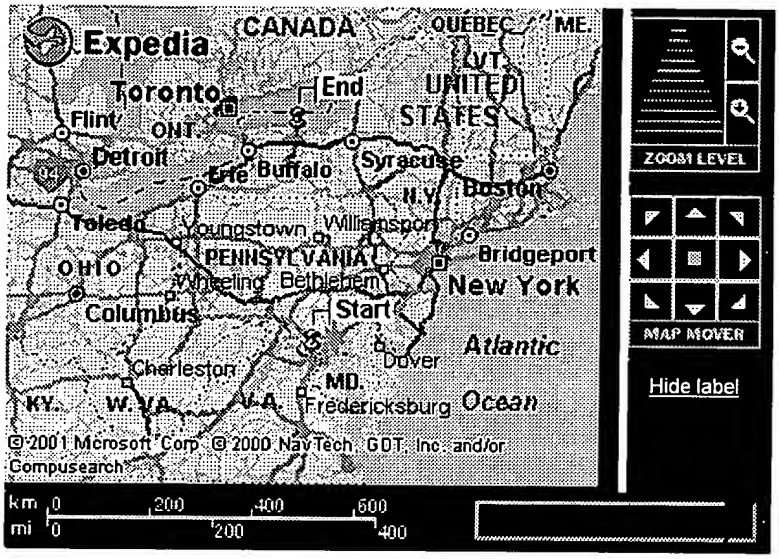
Set     Items   Description
S1      10964   TRAVEL? (S) (REQUEST OR PLAN? OR ITINERARY) (S) (COMPUTER -
             OR PROCESSOR)
S2       2502   TRAVEL? (5N) (REQUEST OR PLAN? OR ITINERARY) (S) (COMPUTER
             OR PROCESSOR)
S3          0   (DETERMIN?3 OR FIND?3 OR RETRIEV?3) (10N) (TRANSPORT?5)
S4        104   (DETERMIN??? OR FIND??? OR RETRIEV???) (10N) ((TRANSPORT??-
             ?? OR TRAVEL????)(5W) OPTION)
S5          8   S4 AND S2
S6          8   RD S5 (unique items)
? s s6 and py<1999
Processing
Processed  10 of  27 files ...
Processing
```

```
Processing
Processed  20 of  27 files ...
Processing
Completed processing all files
                8  S6
         54251179  PY<1999
      S7        2  S6 AND PY<1999
?
PLEASE ENTER A COMMAND OR BE LOGGED OFF IN 5 MINUTES
?
Connection closed by remote host
```

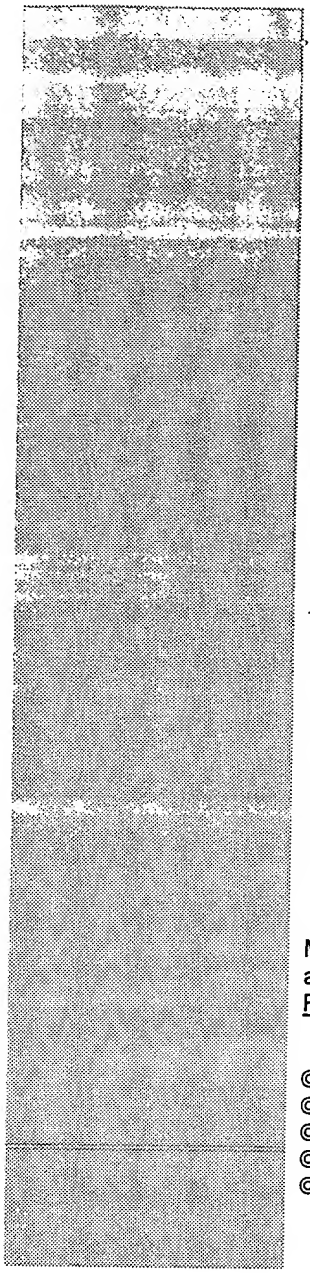
Search Results

From: 1017 Dead Run Dr, McLean, VA, 22101
To: Rochester, New York

Show turn-by-turn maps | Print this route | Save this route | E-mail this route



Directions	Distance	Time
Start: Depart 1017 Dead Run Dr, McLean, VA, 22101 on **Dead Run Dr** (West)	0.3	0:02
1: Bear **LEFT** (West) onto **SR-193 [Georgetown Pike]**	0.1	0:01
2: Turn off onto **Ramp**	0.3	0:01
3: Merge onto **I-495 [I-495 Innerloop]** (North)	4.8	0:01
Entering Maryland		
4: Continue (North) on **I-270 Spur**	2.0	0:02
5: Continue (North) on **I-270 [Dwight D Eisenhower Hwy]**	29.8	0:29
6: At I-70 Exit 53/I-270 Exit 32, continue (North-West) on **US-40**	0.7	0:01
7: At US-15 Exit 16, continue (North) on **US-15 [US-40]**	68.4	1:17
Entering Pennsylvania		
8: At US-11 US-15 Exit, continue (North) on **US-11 [US-15]**	2.9	0:05
9: At US-11 N 2nd St Exit, turn **LEFT** (North-West) onto **N 2nd St**	0.1	0:01
10: Bear **RIGHT** (North-East) onto **Stella St**	0.1	0:01
11: Turn **LEFT** (North-West) onto **US-11 [US-15]**	53.0	1:04
12: Bear **LEFT** (North) onto **US-15**	32.4	0:39
13: At I-180 US-15 Exit, bear **LEFT** (West) onto **I-180 [US-15]**	2.3	0:03



13: At I-180 US-15 Exit, bear **LEFT** (West) onto **I-180 [US-15]**	2.3	0:03
14: At I-180 US-15 Exit, bear **RIGHT** (West) onto **US-15**	74.4	1:23
Entering New York		
15: At US-15 Exit 44, turn **LEFT** (North-West) onto **SR-15 [SR-17]**	21.4	0:22
16: Continue (North) on **SR-17 [Southern Tier Expy]**	0.5	0:01
17: Continue (North-West) on **SR-15 [SR-17]**	1.8	0:02
18: At I-390 Exit 36, bear **RIGHT** (North-West) onto **I-390**	75.7	1:12
19: At I-490 Exit 9/I-390 Exit 20, turn **RIGHT** (East) onto **I-490**	3.4	0:05
20: At I-490 State St Exit, turn **LEFT** (North-West) onto **State St**	0.3	0:01
End: Arrive Rochester, New York	< 0.1	< 1min
Total Route	**375 mi**	**6 hrs 55 mins**

Select an option

- Save to My Maps & Routes
- Reverse this route
- Link to this route
- Search for a new route

Maps and routes on Expedia.com use data from many sources, and from time to time, errors may appear. Expedia.com in no way intends any offense to users. If you find an error, please send us Feedback.

Rochester Trip with Stop at Gettysburg

Total Distance : 376.8 miles
Total Driving Time : 7 hours, 11 minutes

Journey Cost : $19.72

Departing: McLean, Virginia Arriving: Rochester, New York

Time	*Distanc*	*Instruction*	*Road*	*For*	*Dir*	*Toward*
7:29 AM	**0.0**	**Depart McLean, Virginia**	**Local road(s)**	**1.8 mi**	N	
7:35 AM	1.8	At I-495 Exit 13, turn right ont	I-495	6.8 mi	N	
7:36 AM	*3.1*	*Entering Maryland*				
7:42 AM	8.6	At I-495 Exit 36, turn left onto	SR-187	1.1 mi	N	Rockville
7:44 AM	9.8	At I-270 Exit 1, turn left onto	I-270	31.6 mi	W	
8:15 AM	41.4	At US-40 Exit 16, go onto	US-15	31.7 mi	NW	Pennsylvania
8:46 AM	*67.2*	*Entering Pennsylvania*				
8:53 AM	73.1	Turn left onto	SR-134	3.1 mi	N	
8:59 AM	76.2	Bear right onto	S Washington St	786 yds	N	
9:00 AM	76.7	Turn right onto	Local road(s)	82 yds	E	
9:00 AM	***76.7***	***Arrive Gettysburg, Pennsylv***				
10:00 A	***76.7***	***Depart Gettysburg, Pennsyl***	***Local road(s)***	***82 yds***	***W***	
10:00 A	76.8	Turn right onto	S Washington St	335 yds	N	
10:01 A	76.9	Turn right onto	US-30	2.3 mi	E	Weigelstown
10:04 A	79.3	Turn left onto	US-15	30.9 mi	N	Sporting Hill
10:39 A	110.1	Bear left onto	US-11	48.9 mi	N	Harrisburg
11:39 A	159.0	At Dundore, bear right onto	US-11 Byp	3.7 mi	N	
11:43 A	162.7	Turn right onto	US-11	3.4 mi	NE	Sunbury
11:47 A	166.1	Go onto	US-15	32.3 mi	N	Williamsport
12:27 P	198.4	Go onto	Market St	27 yds	NW	
12:28 P	198.4	Turn left onto	Local road(s)	757 yds	W	
12:30 P	198.8	Turn right onto	I-180	1.8 mi	W	
12:32 P	200.6	Bear right onto	US-15	73.9 mi	W	New York
1:42 PM	**259.4**	**Refuel before here: last refu**				
1:45 PM	*262.0*	*Entering New York*				
1:59 PM	274.5	At SR-17 Exit 44, turn left ont	SR-17	23.0 mi	W	
2:23 PM	297.6	Go onto	I-390	76.0 mi	W	Rochester
3:35 PM	373.6	At I-490 Exit 20, turn right ont	I-490	2.8 mi	E	
3:39 PM	376.4	At I-490 Exit 12, bear left onto	Local road(s)	718 yds	NE	
3:40 PM	**376.8**	**Arrive Rochester, New York**				

Rochester Trip with Stop at Gettysburg 10:00

Total Distance : 376.8 miles
Total Driving Time : 7 hours, 11 minutes

Journey Cost : $19.72

Departing: McLean, Virginia Arriving: Rochester, New York

Time	Distanc	Instruction	Road	For	Dir	Toward
8:29 AM	**0.0**	**Depart McLean, Virginia**	**Local road(s)**	**1.8 mi**	**N**	
8:35 AM	1.8	At I-495 Exit 13, turn right ont	I-495	6.8 mi	N	
8:36 AM	*3.1*	*Entering Maryland*				
8:42 AM	8.6	At I-495 Exit 36, turn left onto	SR-187	1.1 mi	N	Rockville
8:44 AM	9.8	At I-270 Exit 1, turn left onto	I-270	31.6 mi	W	
9:15 AM	41.4	At US-40 Exit 16, go onto	US-15	31.7 mi	NW	Pennsylvania
9:46 AM	*67.2*	*Entering Pennsylvania*				
9:53 AM	73.1	Turn left onto	SR-134	3.1 mi	N	
9:59 AM	76.2	Bear right onto	S Washington St	786 yds	N	
10:00 A	76.7	Turn right onto	Local road(s)	82 yds	E	
10:00 A	***76.7***	***Arrive Gettysburg, Pennsylv***				
11:00 A	***76.7***	***Depart Gettysburg, Pennsyl***	***Local road(s)***	***82 yds***	***W***	
11:00 A	76.8	Turn right onto	S Washington St	335 yds	N	
11:01 A	76.9	Turn right onto	US-30	2.3 mi	E	Weigelstown
11:04 A	79.3	Turn left onto	US-15	30.9 mi	N	Sporting Hill
11:39 A	110.1	Bear left onto	US-11	48.9 mi	N	Harrisburg
12:39 P	159.0	At Dundore, bear right onto	US-11 Byp	3.7 mi	N	
12:43 P	162.7	Turn right onto	US-11	3.4 mi	NE	Sunbury
12:47 P	166.1	Go onto	US-15	32.3 mi	N	Williamsport
1:27 PM	198.4	Go onto	Market St	27 yds	NW	
1:28 PM	198.4	Turn left onto	Local road(s)	757 yds	W	
1:30 PM	198.8	Turn right onto	I-180	1.8 mi	W	
1:32 PM	200.6	Bear right onto	US-15	73.9 mi	W	New York
2:42 PM	**259.4**	**Refuel before here: last refu**				
2:45 PM	*262.0*	*Entering New York*				
2:59 PM	274.5	At SR-17 Exit 44, turn left ont	SR-17	23.0 mi	W	
3:23 PM	297.6	Go onto	I-390	76.0 mi	W	Rochester
4:35 PM	373.6	At I-490 Exit 20, turn right ont	I-490	2.8 mi	E	
4:39 PM	376.4	At I-490 Exit 12, bear left onto	Local road(s)	718 yds	NE	
4:40 PM	**376.8**	**Arrive Rochester, New York**				

Rochest r Trip with Stop at Gettysburg 11:00 - 2:00pm

Total Distance : 376.8 miles
Total Driving Time : 7 hours, 11 minutes

Journey Cost : $19.72

Departing: McLean, Virginia Arriving: Rochester, New York

Time	Distanc	Instruction	Road	For	Dir	Toward
DAY 1						
9:30 AM	**0.0**	**Depart McLean, Virginia**	**Local road(s)**	**1.8 mi**	N	
9:35 AM	1.8	At I-495 Exit 13, turn right ont	I-495	6.8 mi	N	
9:36 AM	*3.1*	*Entering Maryland*				
9:42 AM	8.6	At I-495 Exit 36, turn left onto	SR-187	1.1 mi	N	Rockville
9:44 AM	9.8	At I-270 Exit 1, turn left onto	I-270	31.6 mi	W	
10:15 A	41.4	At US-40 Exit 16, go onto	US-15	31.7 mi	NW	Pennsylvania
10:47 A	*67.2*	*Entering Pennsylvania*				
10:53 A	73.1	Turn left onto	SR-134	3.1 mi	N	
10:59 A	76.2	Bear right onto	S Washington St	786 yds	N	
11:00 A	76.7	Turn right onto	Local road(s)	82 yds	E	
11:00 A	***76.7***	***Arrive Gettysburg, Pennsylv***				
2:00 PM	***76.7***	***Depart Gettysburg, Pennsyl***	***Local road(s)***	***82 yds***	***W***	
2:00 PM	76.8	Turn right onto	S Washington St	335 yds	N	
2:01 PM	76.9	Turn right onto	US-30	2.3 mi	E	Weigelstown
2:04 PM	79.3	Turn left onto	US-15	30.9 mi	N	Sporting Hill
2:39 PM	110.1	Bear left onto	US-11	48.9 mi	N	Harrisburg
3:39 PM	159.0	At Dundore, bear right onto	US-11 Byp	3.7 mi	N	
3:43 PM	162.7	Turn right onto	US-11	3.4 mi	NE	Sunbury
3:47 PM	166.1	Go onto	US-15	32.3 mi	N	Williamsport
4:27 PM	198.4	Go onto	Market St	27 yds	NW	
4:28 PM	198.4	Turn left onto	Local road(s)	757 yds	W	
4:30 PM	198.8	Turn right onto	I-180	1.8 mi	W	
4:32 PM	200.6	Bear right onto	US-15	23.4 mi	W	New York
5:00 PM	*224.0*	*End of day*				
DAY 2						
5:00 AM	224.0	Stay on	US-15	50.5 mi		New York
5:42 AM	**259.4**	**Refuel before here: last refu**				
5:45 AM	*262.0*	*Entering New York*				
5:59 AM	274.5	At SR-17 Exit 44, turn left ont	SR-17	23.0 mi	W	
6:23 AM	297.6	Go onto	I-390	76.0 mi	W	Rochester
7:35 AM	373.6	At I-490 Exit 20, turn right ont	I-490	2.8 mi	E	
7:39 AM	376.4	At I-490 Exit 12, bear left onto	Local road(s)	718 yds	NE	
7:40 AM	**376.8**	**Arrive Rochester, New York**				